

1/9. (amended)
the steps of:

A method for manufacturing a semiconductor device comprising

- Q2
- (a) forming a interlayer dielectric layer, the step including:
 - (a) (1) forming a first silicon oxide layer by reacting a silicon compound and hydrogen peroxide through a chemical vapor deposition method, and
 - (a) (2) forming a second porous silicon oxide layer by reacting a silicon compound, at least one of oxygen and a compound including oxygen, and a compound including an impurity through a chemical vapor deposition method;
 - (b) forming a wetting layer over the interlayer dielectric layer;
 - (c) forming a metal wiring layer over the wetting layer;
 - (d) forming a pad section by patterning the wetting layer and the metal wiring layer;

and

after the step (a), the step of conducting an anneal treatment at a temperature of 600 – 850°C.

2/10. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the silicon compound used in the step (a) (1) is at least one type selected from an inorganic silane compound including monosilane, disilane, SiH_2Cl_2 and SiF_4 , or an organo silane compound including CH_3SiH_3 , tripropyl-silane and tetraethylorthosilicate.

3/11. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the step (a) (1) is conducted with the silicon compound being an inorganic silane compound by a reduced pressure chemical vapor deposition method at a temperature of 0 – 20°C.

4/12. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the step (a) (1) is conducted with the silicon compound being an organo silane compound by a reduced pressure chemical vapor deposition method at a temperature of 100 – 150°C.

13. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the step (a) (2) is conducted by a plasma chemical vapor deposition method at a temperature of 300 – 450°C.

15. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the step (a) (2) is conducted by a chemical vapor deposition method at a temperature of 300 – 550°C.

17. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein, before forming the second silicon oxide layer in the step (a) (2), the first silicon oxide layer is exposed to an ozone atmosphere.

18. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the impurity used in the step (a) (2) is phosphorous.

19. (amended) A method for manufacturing a semiconductor device according to claim 9, wherein the metal wiring layer is provided by forming a first aluminum layer including aluminum or an alloy containing aluminum as a main component at a temperature of 200°C or lower, then forming a second aluminum layer including aluminum or an alloy containing aluminum as a main component at a temperature of 300°C or higher.

20. (amended) A method for manufacturing a semiconductor device, comprising:
 forming a first silicon oxide layer using a polycondensation reaction of a silicon compound and hydrogen peroxide;
 forming a second silicon oxide layer including an impurity therein;
 annealing the first silicon oxide layer and the second silicon oxide layer at a temperature in the range of 600 – 850°C; and
 forming a pad section over the first silicon oxide layer and the second silicon oxide layer, the pad section including a wetting layer and a wiring layer.